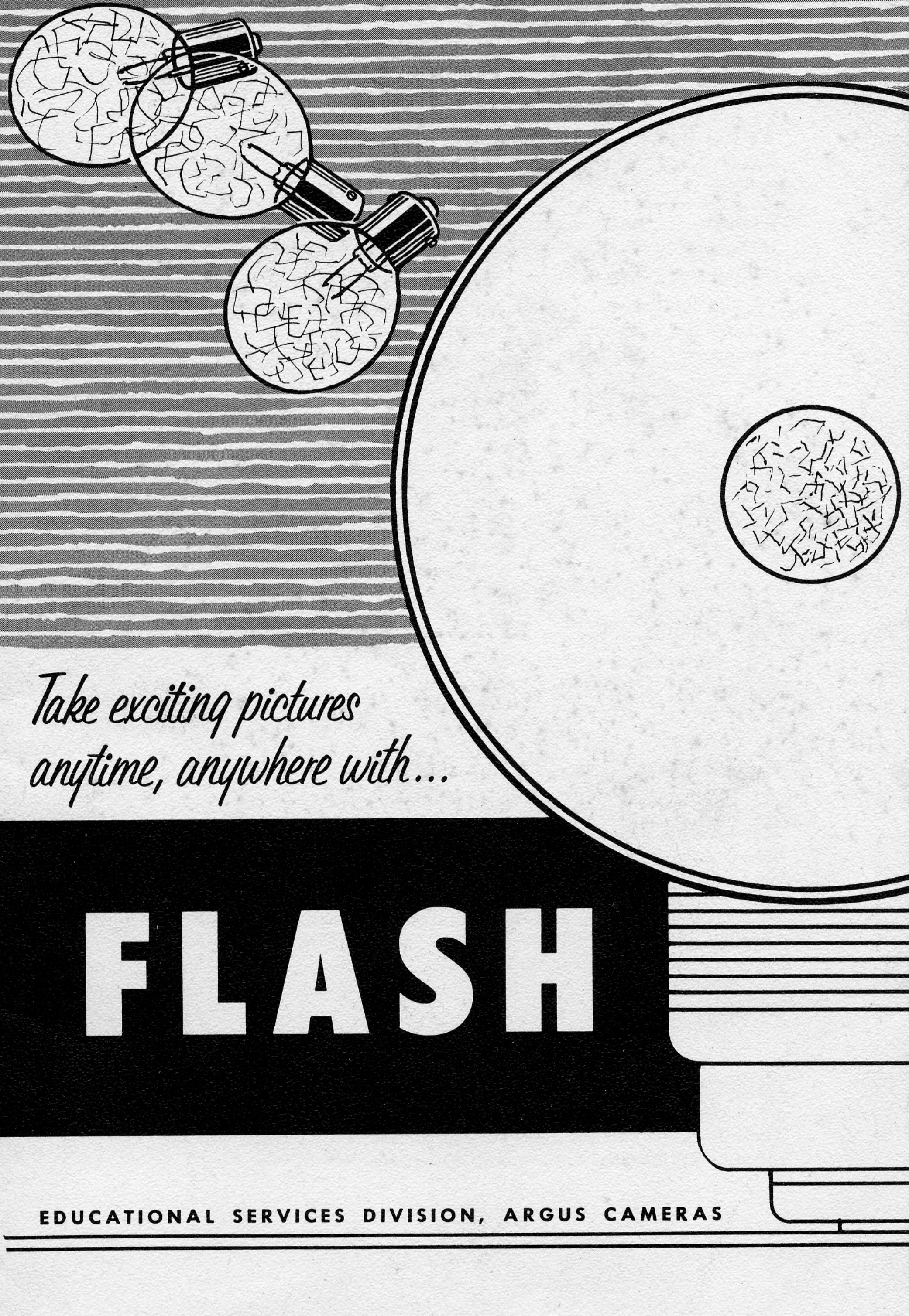

Take exciting pictures
anytime, anywhere with...

FLASH

EDUCATIONAL SERVICES DIVISION, ARGUS CAMERAS

With the modern, "power packed" flashbulbs, and a flash synchronized camera you can make like an expert and take exciting pictures anywhere, anytime . . . indoors or out.

What's more, this combination really makes you the master of all photographic situations, because taking flash pictures with your camera is actually as simple as pressing the shutter release!

Yes . . . the mystery of flash photography is gone! Excellent flash pictures are a "cinch" everytime! In three quick steps, sparkling, sharp snapshots are as easy as popping a bulb into your flash reflector.

Here's all you need to do . . .

- Know the speed of the film you are using.
- Set shutter speed for flash on your camera.
- Use your favorite flashbulb and select correct "guide numbers" on the bulb carton.

FILM SPEEDS

Film "speed" is simply a way of saying that some films are more sensitive to light, and thus need less exposure than others.

This speed is expressed by a number, and you'll find the one for flash under "Tungsten" on the instruction sheet packed with your film.

Numbers between 80 and 160 or above, indicate "high speed" films, while numbers between 40 and 64 suggest "medium speed" films, and films with speeds from 8 to 24 (some black-and-white, and most color films) are known as "slow speed" films, and require more light for best exposure.

HIGH SPEED films are used generally for flash pictures a great distance from the subject, or to capture "peak" action. These films are fine for flash pictures taken inside when a shutter speed of 1/100th can stop moderate action.

MEDIUM SPEED films are probably most popular with photo fans for ALL average flash pictures indoors, and whenever flash is used outdoors to supplement daylight.

SLOW SPEED films (black and white) are ideal when you wish to show very fine details or where you plan to make extreme enlargements from the negatives.

SPEED OF FILM (TUNG.)	*NAME OF BLACK & WHITE FILM	SUGGESTED USES
High-Speed 80-160	Tri-X Ultra Speed Pan	In large auditoriums, gyms, halls, dim interiors, and for moderate action.
MEDIUM SPEED 40-64	SUPREME PLUS-X VERICHROME PAN ALL WEATHER PAN	FAMILY GROUPS, PARTIES, PORTRAITS, HOUSEHOLD PETS, SMALL INTERIORS, ETC.
Slow Speed 10-24	Adox KB-14 Panatomic-X	Copying & close-up work and pictures from which you are going to make extreme enlargements.
	NAME OF COLOR FILM	
20	Kodacolor	For Color Prints only. (620 and similar roll film cameras)
16 16 20	Kodachrome Ektachrome Anscochrome	For Color SLIDES and PRINTS. (35mm and roll film cameras)

**Other brands of film in all speeds also available at your local photo dealer's shop.*

SHUTTER SPEEDS

All cameras synchronized for flash are designed so the flashbulb will fire while the shutter is opened.

With an Argus camera, you may wish to check the shutter speed you are using for flash pictures on the chart below to make certain the proper shutter speed is being used with type of bulb you prefer.

BULBS

CAMERA	GAS-FILLED	WIRE-FILLED	ELECTRONIC
C44 C4	1/25 to 1/100 (flash switch on X or F)	1/25 to 1/300 (flash switch on M)	1/25 to 1/300 (flash switch on X)
C3	Instruction book states 1/25 for all bulbs. However, 1/25 to 1/100 may be used with gas-filled bulbs ONLY.	1/25*	Any speed with Color-Matic Model
C20	1/25 to 1/50	1/25	Any speed

*Use 1/30th instead of 1/25th with C3 if this speed is marked on your shutter speed dial.

	TWIN-LENS TYPE CAMERA	
Super 75	Inst. (Instantaneous) setting. Follow directions for COLOR-MATIC.	
75	Inst. (Instantaneous) setting. (Guide number is not needed here, but follow flash guide in your instruction book.)	

For modified twin-lens type cameras with fixed or focusing lenses, the "I" or instantaneous setting is used for flash pictures. Do not use "time" setting on this type camera for flash unless it is on a tripod or firm support. For best results follow the directions in your instruction book.

NOTE: The correct shutter speed for flash IS important of course, and the charts above will help, but the batteries in your flashgun are a part of the "team" too.

If they are 6 months old, they could be the "guilty culprits" that are robbing you of perfect flash pictures. Why not have your photo dealer check them for you soon?

TYPE OF BULB

Although there are several flashbulb manufacturers, and a wide variety of bulb shapes and sizes on the market, they "boil down" into a few simple types.

The flashbulb YOU decide to use is really a matter of personal preference. Your camera can be used with many different ones, including electronic flash.

Let's meet some of the most popular for use with all cameras, and then you'll know them by "first name" next time you buy a new supply.

WIRE-FILLED BULBS all bulbs not gas-filled. Popular for all average flash pictures with most cameras. Give more light than gas-filled at same distance from subject. ("Push-in" bayonet base . . . 25's, 8's, etc., "screw-in" base type . . . 0's, 40's, etc. and pinless miniature M2's.)

ELECTRONIC FLASH specially designed flashgun and power-pack. Gives exceptionally fast flash of light (1/500th or faster). Lasts for hundreds of flashes. Can be used with Argus late model COLOR-MATIC cameras, and all other cameras with X or O delay.

GAS-FILLED BULBS such as Sylvania SF. These bulbs provide a flash of light which lasts about 1/200th of a second, and for this reason they are sometimes used to stop moderate action.

NOTE: Blue bulbs are used with daylight color film.

Clear bulbs with FLASH TYPE COLOR FILM and blue bulbs with OUTDOOR. Manufacturers' directions with color film of your choice provide details on proper use of filters and tinted bulbs.

GUIDE NUMBERS

The Key to Flash Exposures

Now you're really "in the know" regarding film, flashbulbs and how to set your camera for flash. The DISTANCE YOU ARE FROM THE SUBJECT is the other KEY to flash pictures on the button everytime! . . . and it's really just that simple, too!

We expect light from our flash to be brightest when the bulb is close to the subject, and weaker as we move back. To give you proper lens openings at each distance, bulb manufacturers provide a GUIDE NUMBER on the bulb carton.

The chart below shows how guide numbers usually appear on a Sylvania Press 25 flashbulb carton, and how the lens openings are determined with this particular bulb.

TUNGSTEN EXPOSURE INDEX	25-40	50-80	100-160
SHUTTER SPEED		**GUIDE NUMBER**	
up to 1/50	160	230	320
1/100	125	175	250
1/200	95	135	190

Example:

With Plus-X film, a Press 25 flashbulb, and shutter set at 1/25, the GUIDE No. is 230.

With the subject 11 ft. from camera, divide 11 into 230 and set lens closest to the answer.

FILM	**Plus-X**
BULB	**Press 25**
SHUTTER	**1/25**
GUIDE No.	**230**
DISTANCE	**11 ft.**

$$11\overline{)230}\quad 20.9$$

Set lens at f/22 (or place single thickness of white handkerchief over reflector and set one stop wider or f/16.)

The guide number may appear under the film name rather than film's exposure index.

Guide numbers for color are smaller (slower film), but procedure is always the same. Divide guide number by distance you are from your subject, set lens as close to this number as possible, and you're ready for action.

USE FLASH OUTDOORS

You will find that flashgun mighty handy for excellent pictures outdoors, too! Next time you can't get the sun to cooperate, try the flashgun on your camera; you can use it on dark days in the same manner as you would indoors.

You can also use flash to "fill-in" the shadow side of your subject's face in bright sunlight. The exposure will be the same as you would normally use, and the distance from the flashgun to the subject determines the strength of the fill-in light.

For instance, normal outdoor exposure with Daylight Kodachrome would be 1/50 second at between f/5.6 and f/8. With Argus C3 cameras, use 1/25 second at between f/8 and f/11. If you use a 25B bulb, the guide number will be 45; divide the lens opening into this number to get the flashgun-to-subject distance for flat lighting.

Increase this distance from 25% to 50% to achieve more natural lighting, and still have filled-in shadows. If the distance is too great for convenience, put a handkerchief over the flash and decrease the flash-to-subject distance by 1/3rd.

OFF THE CAMERA

Your flashgun can be used off the camera for less direct lighting and for bounce flash.

Many manufacturers make extension flash cords for Argus cameras, and they include: Spiratone, Inc., 135-06 Northern Boulevard, Flushing 54, New York; Mr. Ralph E. Ramey, 2213 Century Drive, Columbus 11, Ohio; and Brandess Brothers Sales Co., 540 S. Plymouth Court, Chicago 45, Illinois.

TRY BOUNCING THE LIGHT

When you use an extension flash cord, the light need not be directed at the subject, but can be bounced off a ceiling or nearby wall. The lighting will be softer and more diffuse. An exposure increase will be necessary, however, and may be from ½ to 2 stops over a normal flash exposure depending on the color and distance from the flash of the reflecting surface.

When using bounce light with color film, use only white or neutral reflecting surfaces or the light will take on an off-color.

WATCH THOSE CLOSE-UPS

At close distances, the guide number may give a small lens opening not found on your camera (like f/22 or f/32).

If this happens often with bulbs of your choice, you may use smaller bulbs or a single thickness of handkerchief or frosted acetate over the flash reflector to cut down the light. With one thickness you set your lens one stop LESS than the guide number suggests . . . use f/16 when guide number suggests f/22.

SHIELD THE FLASH

Many camera fans use a plastic shield over the flash reflector. An accessory shield which is "two-sided" and has a frosted side may be used to cut down the light as suggested above.

M-2 FLASHBULBS

These pinless miniature bulbs are designed to be used in a 3 or 3½" high-efficiency reflector of a special design. They can be used in Argus flashguns with an adapter-reflector, and these are available from many Argus dealers.

SUGGESTIONS REGARDING PROPER USE OF

ELECTRONIC or "STROBE" UNITS

with ARGUS Cameras

X TYPE SYNCHRONIZATION

Electronic flash equipment is generally designed to work most satisfactorily with cameras having what is known as "X" or "O" delay. With this special type synchronization, contact is made when the shutter is fully open, thus making full use of all available light in the exceptionally fast flash from an electronic unit.

All Argus A4 and C3 Cameras with Color-matic markings, all C20 and C44 Cameras, and C4 models above serial number 321,000 are factory synchronized for electronic flash.

Certain electronic flash units are designed for use with shutters employing "F" or "M" type synchronization; therefore, some earlier model Argus Cameras may work "as is" with certain electronic flash units. Regular "M" type synchronization can be adapted to an electronic unit which offers a delay mechanism for use with this type synchronization. (Consult manufacturers of the units in which you are interested.)

SHUTTER SPEED

You can use any shutter speed when using electronic flash with Color-Matic Model Argus C3, C4, C20, and C44 Cameras. Since it is really the light of the flash itself that makes the exposure, the speed of the exposure will depend on the duration of the flash from your particular electronic unit. (1/500th, 1/800th, or 1/1000th second, whatever it may be.)

GUIDE NUMBERS

Light from electronic flash tubes is not the same type as that from standard flashbulbs. PROPER GUIDE NUMBERS for use with any electronic flash unit will come FROM THE MANUFACTURER OF THE ELECTRONIC FLASH UNIT. He is the one most familiar with the manner in which it operates, and knows the exact strength of light from the flash tube.

If the instruction book with your electronic flash unit does not provide guide numbers, a post card to the manufacturer of that unit should bring this information. You may also want to check on specially recommended film developing procedures at the same time.

ATTACHING UNIT

Complete instructions should come with any electronic unit for attaching it to your Argus Camera. If your camera is an Argus C3, you will want to remember that the contact hole on the camera nearest the top is grounded. (Make sure the current flowing from your unit does not pass through the front plate of the camera. If this happens, simply reverse the plug as you place it into the camera, and correct "polarization" will be established.)

To be sure you find an electronic flash unit best suited to your Argus Camera, or to make certain you know the best manner to operate the one you have purchased, write the manufacturer. He is best able to offer you up-to-the-minute information and suggestions on operating his particular electronic unit with your camera.

EXPLANATION OF TERMS

FILM SPEED	Also known as "exposure index" or "emulsion speed." Indicates the film's sensitivity to light.
F/STOP	Lens openings like 3.5, 4, 5.6, 8, 11, etc. Also called "aperture." (3.5 is a large opening . . . f/8, 11, etc. are smaller.)
ONE STOP	Difference between the lens opening numbers engraved on the lens mount, i.e. one stop is difference between f/2.8 and f/4, between f/4 and f/5.6, between f/5.6 and f/8, etc. (The difference between f/3.5 and f/4 is only ½ stop.)
TUNGSTEN	Artificial light like flash, flood bulbs, incandescent bulbs, etc.
COLOR PRINTS	Album size prints or enlargements made from 35mm color slides, or larger roll films in color.
COLOR SLIDES	Positive color transparencies to project on screen and used to make color prints.
PEAK ACTION	The moment when action is "frozen" or stopped and really motionless. Many excellent action pictures are snapped when the motion is at its "peak," so shutter speeds as low as 1/25 of a second can be used.
GUIDE NUMBER	A factor used to find the correct lens opening when taking flash pictures. (Camera-to-subject distance divided into the guide number gives the correct lens opening. The guide number is determined by the film and flashbulb you use, and is listed by the manufacturers.)

If you have any photographic problems with which we can help, won't you please write to . . .

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Ann Arbor, Michigan

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